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EXAMINER

KRUER, KEVIN R

ART UNIT

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5

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-5

<b>Office Action Summary</b>	<b>Application No.</b> 09/584,489	<b>Applicant(s)</b> ANDRIESSEN ET AL.	
	<b>Examiner</b> Kevin R Krueer	<b>Art Unit</b> 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3-9, 11, 12, 14 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-9, 11, 12, 14 and 20-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
    If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "soft" and "semi-soft" in claim 21 are relative terms that render the claim indefinite. The terms "soft" and "semisoft" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-8, 14, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0875889A1 (herein referred to as Daems) in view of Posey-Dowty et al (US 5,994,530). Daems teaches a heat mode recording material comprising a transparent organic resin support (page 3, line 45), a subbing layer applied to said support (page 3, line 52) and a thin metal material applied thereto (page 4, line 4). The metal layer is applied via an aqueous solution comprising metal ions that are

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reduced to metal particles by means of a reducing agent (page 4, line 21). The metal is selected from a group comprising bismuth, tin, and silver (page 4, line 56) and preferably has a particle size of 5-300nm (page 4, line 48). The aqueous solution further comprises a binder such as cellulose derivatives, gelatin, Arabic gum and polyacrylic acid (page 4, line 15). A protective element may be applied to the metal layer. Preferably the protective element comprises an adhesive layer and a transparent organic layer such as PET (page 5, lines 3+). The laminate is useful in heat mode recording wherein information is converted into electrical time series signals and scanned to the recording material with a laser beam (page 2, lines 48+). Furthermore, the examiner takes the position that the laminate taught in Daems is "soft or semi-soft" because it comprises the same layers and the same composition as the laminate claimed by Applicant.

Daems does not teach that the binder should comprise an N-quaternized cellulose. However, Posey-Dowty teaches a carboxymethyl cellulose ester of higher acids useful in formulating waterborne coating compositions containing metallic pigment (abstract). The CMC may be treated with ammonia or amine and exhibit unusual rheological properties illustrated by an exponential increase in viscosity with a small increase in concentration of CMC ester (col 3, lines 56+). The examiner notes that the reaction of ammonia or amine with CMC results in the neutralization of the CMC (see US 5,521,292; col 5, lines 65+). "Neutralized" means that a part or all of the anionic or cationic functional groups of the CMC forms a salt with ions of the neutralization agent (col 4, lines 63+ of '292). Thus, it would have been obvious to one of ordinary skill in

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the art to utilize the N-quaternized CMC taught in Posey-Dowty as the binder taught in Daems because said N-quaternized CMCs are excellent for dispersing metals and have a high viscosity (see page 4, line 14 of Daems).

Daems also does not teach the claimed concentration of the dispersion utilized to obtain the metal layer. However, the examiner takes the position that the concentration of the dispersion is a process limitation that does not materially affect the claimed product. The courts have held that process limitations do not patentably distinguish a claimed product from a product taught in the prior art unless it can be shown that the process limitation inherently results in a materially different product. In the present application, no such showing has been made.

5. Claims 3-9, 14, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andriessen et al. (US 6,187,508) in view of Posey-Dowty et al (US 5,994,530). Andriessen teaches a heat mode recording element based on a thin metal, characterized in that it contains hypophosphorous and/or phosphorous acid (abstract). The heat mode recording material comprises a transparent substrate (col 3, line 60), a subbing layer (col 4, line 1), and a thin metal layer (col 4, line 25). The metal layer is obtained from an aqueous solution of metal ions that is reduced to metal particles by means of a reducing agent (col 4, line 45). Metal that may be utilized include bismuth, tin, and silver (col 5, line 62). In order to keep the metal particles in colloidal dispersion a protective binder is added to the aqueous solution (col 4, line 57). Such binders include CMC, polyacrylic acid, cellulose derivatives, and gelatin. A protective layer may be applied over the metal layer. Protective layers include an adhesive layer and

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transparent organic cover sheet (col 6, line 43). Alternatively, a combination of soft polymeric and hard polymer layers may be applied as the protective layer. The laminate is useful in heat mode recording (col 3, line 58) wherein information is converted into electrical time series signals and scanned to the recording material with a laser beam. Furthermore, the examiner takes the position that the laminate taught in Andriessen is "soft or semi-soft" because it comprises the same layers and the same composition as the laminate claimed by Applicant.

Andriessen does not teach that the binder should comprise an N-quaternized cellulose. However, Posey-Dowty teaches a carboxylmethyl cellulose ester of higher acids useful in formulating waterborne coating compositions containing metallic pigment (abstract). The CMC may be treated with ammonia or amine and exhibit unusual rheological properties illustrated by an exponential increase in viscosity with a small increase in concentration of CMC ester (col 3, lines 56+). The examiner notes that the reaction of ammonia or amine with CMC results in the neutralization of the CMC (see US 5,521,292; col 5, lines 65+). "Neutralized" means that a part or all of the anionic or cationic functional groups of the CMC forms a salt with ions of the neutralization agent (col 4, lines 63+ of '292). Thus, it would have been obvious to one of ordinary skill in the art to utilize the N-quaternized CMC taught in Posey-Dowty as the binder taught in Andriessen because said N-quaternized CMCs are excellent for dispersing metals and have a high viscosity.

Andriessen also does not teach the claimed concentration of the dispersion utilized to obtain the metal layer. However, the examiner takes the position that the

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concentration of the dispersion is a process limitation that does not materially affect the claimed product. The courts have held that process limitations do not patentably distinguish a claimed product from a product taught in the prior art unless it can be shown that the process limitation inherently results in a materially different product. In the present application, no such showing has been made.

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andriessen et al. (US 6,187,508B1) or EP0875889A1 (Daems) in view of Posey-Dowty et al (US 5,994,530), as applied above, and further in view of Takahashi et al. (US 4,405,706). Andriessen, Daems, and Posey-Dowty are relied upon as above, but fail to teach that Ni or alloys thereof may be utilized as the metal layer of the heat mode recording medium. However, Takahashi teaches that Ni and alloys thereof may be utilized in heat mode recording mediums (col 3, line 52+). Specifically, nickel may be alloyed with molybdenum, cobalt, or iron. Thus, it would have been obvious to one of ordinary skill in the art to utilize nickel or its alloys as the metal layer of the heat mode recording mediums taught in Andriessen and Daems because Takahashi teaches that Ni and its alloys are useful for metal layers in heat mode recording mediums.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andriessen et al. (US 6,187,508B1) or EP0875889A1 (Daems) in view of Posey-Dowty et al (US 5,994,530), as applied above, and further in view of Applicant's admissions. Andriessen or Daems and Posey-Dowty are relied upon as above, but do not teach the claimed N-quaternized cellulose resin of claim 20. However, Applicant admits said resin is commercially available under the tradenames CELLCOAT L200, CELQUAT H100,

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CELQUAT L200 and Polyquatenium 4 (see page 8, last line of the second paragraph).

Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to utilize a commercially available cellulose that met the description of the binder taught in Posey-Dowty because such commercially available resins will reduce production cost and are readily available.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andriessen et al. (US 6,187,508B1) or EP0875889A1 (Daems) in view of Posey-Dowty et al (US 5,994,530), as applied above. Andriessen or Daems in view of Posey-Dowty is relied upon as above, but does not explicitly teach the oxidation of the metal layer. However, Andriessen discloses that bismuth coatings coated from aqueous medium have a relatively high degree of oxidized bismuth (col 3, lines 11+). Thus, the examiner takes the position that the metal coatings taught by Andriessen or Daems in view of Posey-Dowty inherently have a metal-oxide based conductive element. Such metal oxides are a result of an oxidative reaction. Furthermore, the examiner points out process limitations do not patentably distinguish a claimed product from a product taught in the prior art unless it can be shown that the process limitation inherently results in a materially different product. In the present application, no such showing has been made.

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.



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***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday from 7:30 a.m. to 4:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is 703-305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

*KRK*

KRK

  
Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700